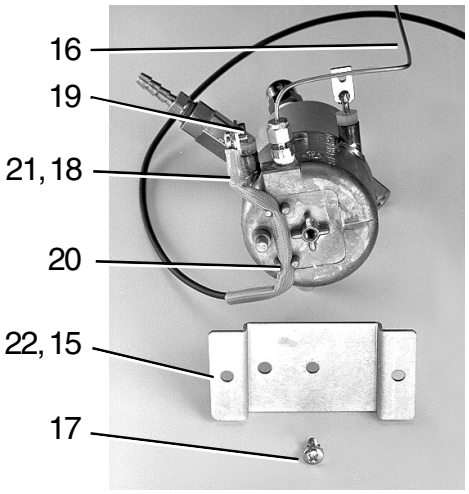
Steam Generator Thermal Fuse

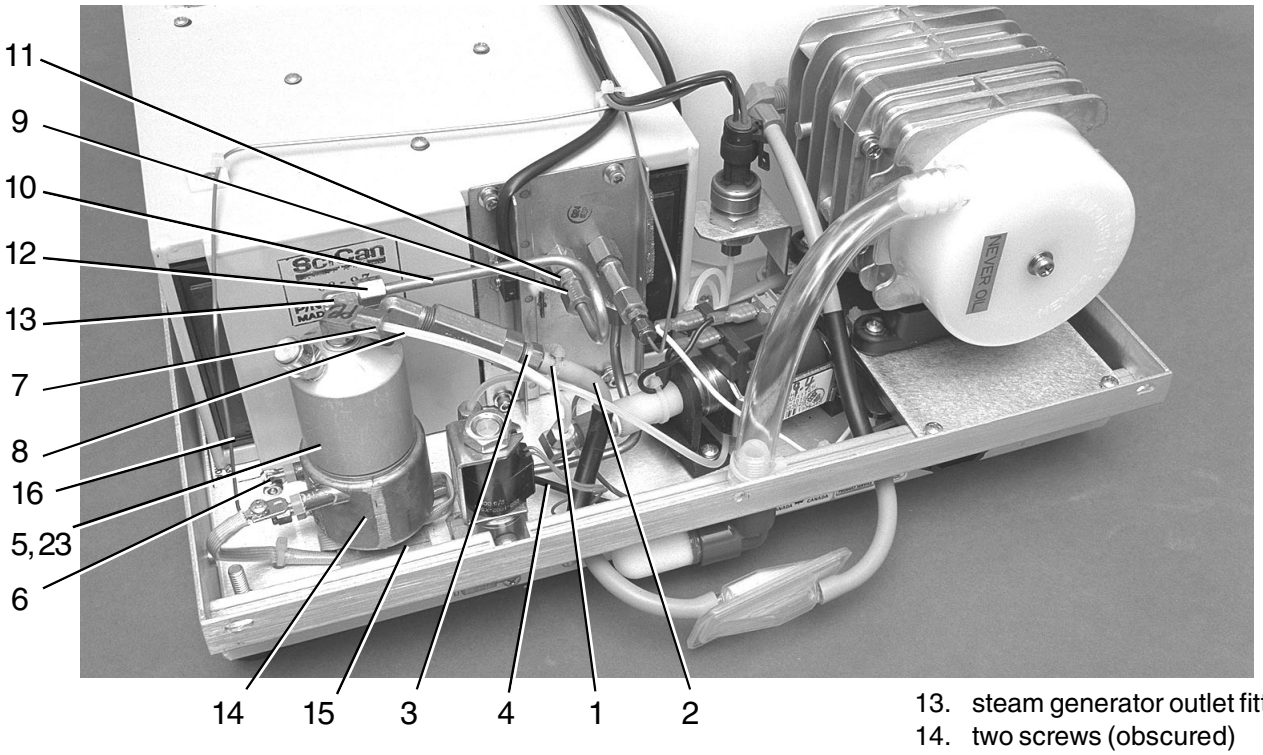
Removing the Thermal Fuse on the Aluminum Steam Generator

To remove the thermal fuse located between the steam generator and the steam generator bracket, follow these steps (see Figures 1 and 2):

1. Carefully cut the high temperature rated cable tie (1) holding the compressor tube (2) onto the check valve inlet (3) and pull the tube off the valve.
2. Disconnect the black thermal fuse lead wire (4) from Controller Board connector terminal J1-3 and the white wire (6) from the steam generator.
3. Trace the path of the black wire back to the base of the steam generator (5). Cut all the cable ties holding the black wire.
4. Using a 3/8-inch wrench, disconnect the compression nut (7) holding the Teflon™ tube (8) from the top of the steam generator.
5. Using a 7/16-inch wrench, disconnect the compression nut (9) holding the steam generator outlet tube (10) to the probe bracket inlet fitting (11) and the compression (12) nut holding the steam generator outlet tube to the steam generator outlet fitting(13).
6. Remove the two screws (14) from the steam generator bracket (15). The steam generator is still attached to the PCB by the thermocouple lead (16).
7. Carefully cut the two cable ties closest to the steam generator that hold the thermocouple leads together.
8. Gently lift and turn the steam generator assembly onto one side to expose the bottom of the assembly. **Be careful not to stress the thermocouple leads. (Min. bend radius - 3/16 inch / 5 mm).**
9. Remove the small screw (17) that attaches the steam generator bracket to the steam generator.
10. Disconnect the thermal fuse (18) from the lower power terminal (19) on the steam generator. Note the routing of the thermal fuse assembly between the bracket and spacing standoffs (20) on the bottom of the steam generator.

1. high temperature rated cable tie
2. compressor tube
3. check valve inlet
4. black thermal fuse wire
5. aluminum steam generator
6. white wire (attaches here)
7. compression nut
8. Teflon™ tube
9. compression nut
10. steam generator outlet tube
11. probe bracket inlet fitting
12. compression nut





13. steam generator outlet fitting
14. two screws (obscured)
15. steam generator bracket
16. thermocouple lead
17. screw
18. thermal fuse
19. steam generator electrical terminal
20. spacing stand-offs
21. double thermal fuse
22. modified steam generator bracket
23. modified steam generator

Figure 1

Steam Generator Thermal Fuse

Replacing the Thermal Fuse on the Aluminum Steam Generator

There are three thermal fuse configurations you may encounter while servicing an Aluminum Steam Generator on a STAT*IM* 5000 / 5000S unit:

Type A is a single thermal fuse wire (18), steam generator bracket (15) and an unmodified steam generator (5).

Type B is a double thermal fuse wire (21) with a modified steam generator bracket (22) and an unmodified steam generator (5).

Type C is a double thermal fuse wire (21), steam generator bracket (15) with a modified steam generator (23).

Determine which configuration is being serviced and use the appropriate parts to service the unit.

To replace the thermal fuse follow these steps (see Figures 1 and 2):

1. Connect the thermal fuse terminal (18) or (21) to the lower power terminal on the steam generator (19).

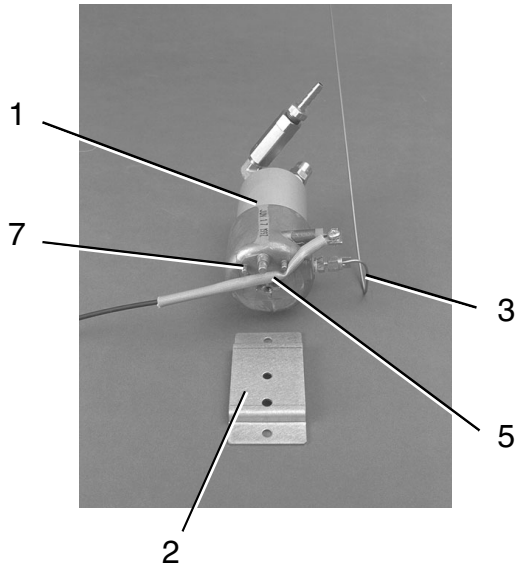
2A. For Type A configuration, replace the steam generator bracket (15) with a modified steam generator bracket (22). Route the wire from the fuse assembly (21) between the standoffs (20) and the standoffs on the modified steam generator bracket as shown in Figure 2. The fuse must be placed exactly between the standoffs. Attach the steam generator backet to the steam generator (5) using the small screw (17). **Do not pinch or crush the wire between components.** Ensure that the screw is tightened securely.

2B. For Type B configuration, route the wire from the fuse assembly (21) between the standoffs (20) on the bottom of the steam generator (5) and the standoffs on the modified steam generator bracket (22) as shown in Figure 2. The fuse must be placed exactly between the standoffs. Attach the steam generator bracket to the steam generator (5) using the small screw (17). **Do not pinch or crush the wire between components.** Ensure that the screw is tightened securely.

2C. For Type C configuration, route the wire from the fuse assembly (21) between the two sets of standoffs (20) on the bottom of the modified steam generator (23), as shown in Figure 3.

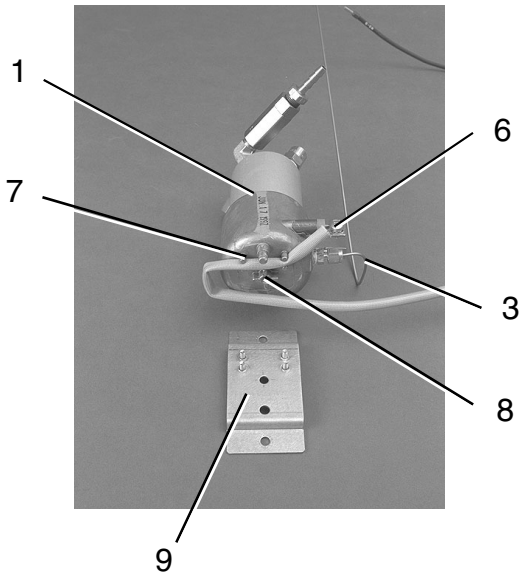
Steam Generator Thermal Fuse

TYPE A

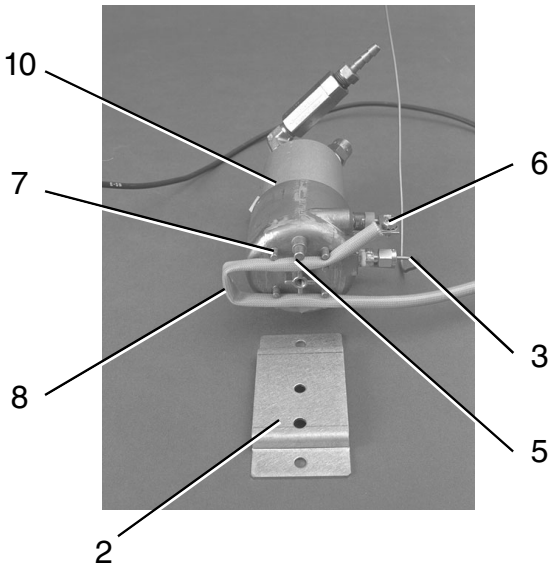


1. steam generator
2. steam generator bracket
3. thermocouple lead
4. screw (not shown)
5. thermal fuse

TYPE B



TYPE C



6. steam generator electrical terminal
7. spacing stand-offs
8. double thermal fuse
9. modified steam generator bracket
10. modified steam generator

Figure 2

Steam Generator Thermal Fuse

The fuse must be placed exactly between the standoffs. Attach the steam generator bracket (15) to the steam generator using the small screw (17). **Do not pinch or crush the wire between components.** Ensure that the screw is tightened securely.

3. Carefully return and attach the steam generator assembly to the chassis using two screws (14). Start the screws into the tapped hole but do not tighten the screws. **Be careful not to stress the thermocouple leads. (Min. bend radius - 3/16 inch / 5 mm).**

4. Connect the compression nut (12) holding the steam generator outlet tube (10) to the steam generator outlet fitting (13) and the compression nut (9) holding the steam generator outlet tube (10) to the probe bracket inlet fitting(11).Tighten finger tight.

5. Connect the compression nut (7) holding the Teflon™ pump tube(8) to the top of the steam generator. Tighten finger tight, then continue to tighten the nut using a 3/8-inch wrench. **Do not over-tighten**.

6. Tighten the two screws (14) that attach the steam generator assembly to the chassis.

7. Using a 7/16-inch wrench, tighten the compression nut holding the steam generator outlet tube to the steam generator outlet fitting and the compression nut holding the steam generator outlet tube to the probe bracket fitting also.

8. Route the black wire (4) from the fuse assembly and connect the wire to Controller Board connector J1-3. Connect the white wire (6) to the steam generator electrical terminal (19).

9. Bundle the loose wires together, using nylon cable ties every 2-3 inches.

10. If servicing a STAT*IM* 5000, reinstall the compressor tube (2) onto the check valve inlet (3) and secure the tube to the valve with a high temperature rated cable tie (1).

11. A dielectric strength test (Hi-Pot) and a protective bonding impedance test (ground continuity) must be performed on the STAT*IM* 5000 unit. *See Required Information, Tools and Routine Maintenance*.

12. Run any sterilization cycle and observe all fittings and tubes for leaks. Check LCD read-outs for messages indicating cycle status.

Steam Generator Thermal Fuse

Removing the Thermal Fuse on STAT*IM* Units with Stainless Steel Steam Generators (See Figure 3)

1. Make sure the power switch is **OFF**, and the unit is unplugged.
2. Remove the stainless steel steam generator. (See Removing STAT*IM* S-Class Unit Stainless Steel Generator).
3. Remove insulation sleeving on each heater terminal of the stainless steel steam generator and cut the cable tie (1) holding the fuse.
4. Remove the terminal screw (2) from each heater end.
5. Loosen the hose clamp (4) with a pair of pliers and slide it forward so that the thermal fuse can be removed. (It is not necessary to remove the hose clamp entirely.) Do this for both terminals.

Replacing the Thermal Fuse on STAT*IM* Units with Stainless Steel Steam Generators

NOTE: The white thermal fuse wire "N" and the black thermal fuse wire "L" are provided with spare part number 01-108515S.

1. Insert each thermal fuse through each hose clamp carefully, making sure to connect the "N" and "L" wires to the correct terminals. The N (white wire) connects to the lower heater end (15) and the L (black wire) connects to the higher heater end (14).
2. Connect the thermal fuse wires to each corresponding terminal end using the retained screws with lockwashers. The thermal fuse wires must be positioned next to the corresponding terminal (not above or below terminal).
3. Align the hose clamp with the heater end (keeping it on the steel portion), make sure three legs of the hose clamp are facing inward (between the two heater ends) and release it into position. Do not scratch or crush the thermal fuse wires while aligning the hose clamp.
4. Attach insulation sleeving onto the terminal and make sure the insulation sleeving covers about 4 mm over the terminal. Do this for both terminals.

Steam Generator Thermal Fuse

5. From the hose clamp, measure approximately 10 mm on the thermal fuse and bend it back towards the terminal end so that it forms a U. Applying a high temperature rated cable tie at the edge of insulation sleeving between the insulation sleeving and terminal arm, hold the terminal fuse into place. Do this for both thermal fuse wires.

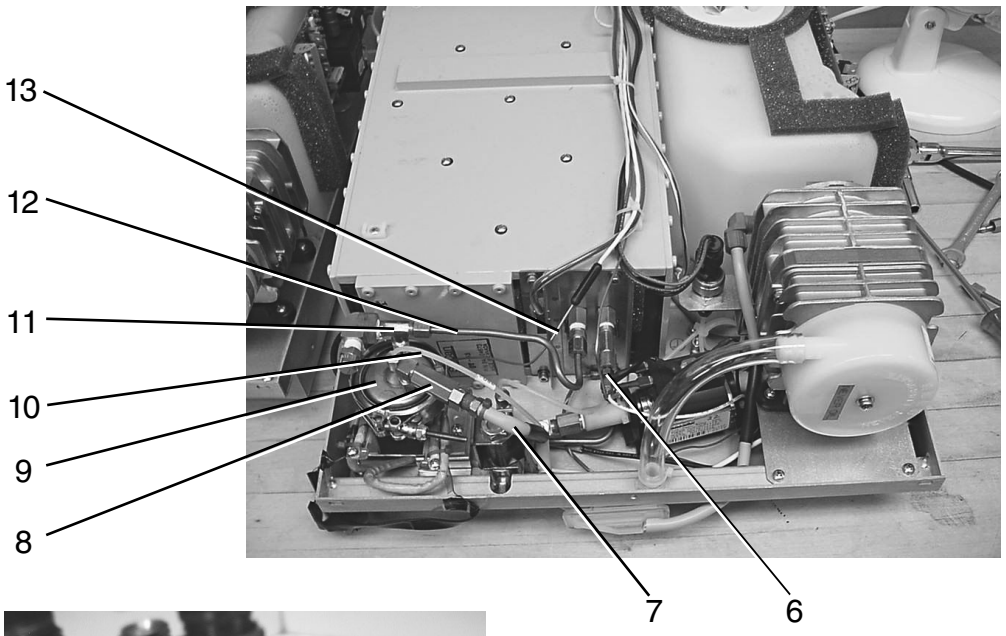
6. Replace the stainless steel steam generator. See *Replacing Stainless Steel Steam Generator*.

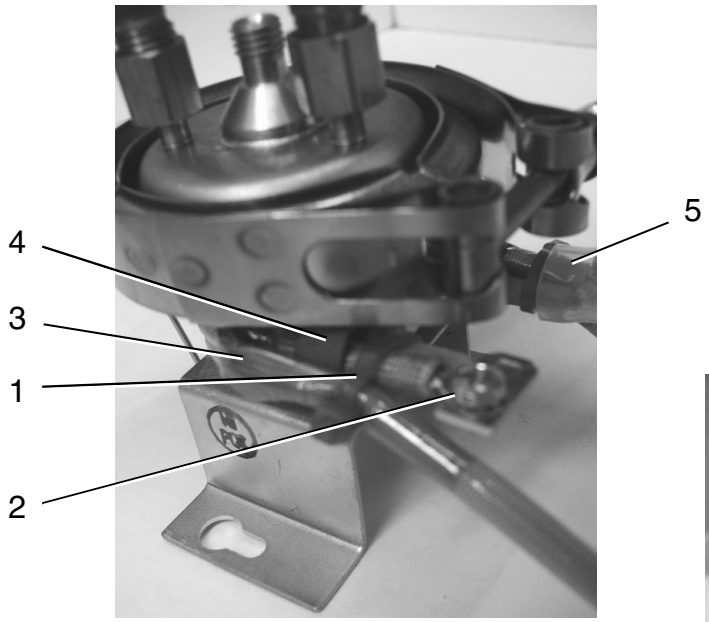
7. A dielectric strength test (Hi-pot) and a protective bonding impedance test (ground continuity), must be performed on the STAT*IM* unit. See *Required Information, Tools and Routine Maintenance*.

8. Run a sterilization cycle and observe all fittings and tubes for leaks. Check LCD read outs for messages indicating cycle status.

9. Reinstall the cover. See *Cover Removal and Replacement*.

Steam Generator Thermal Fuse





1. High temperature rated cable tie
2. Terminal Screw
3. Thermal fuse wire
4. Hose clamp
5. Insulation sleeving
6. Chamber thermocouple lead
7. Compressor tube
8. Check valve
9. Stainless steel steam generator
10. Teflon™ tube
11. Steam generator outlet
12. Steam generator outlet tube
13. Steam generator thermocouple lead
14. Upper terminal
15. Lower terminal

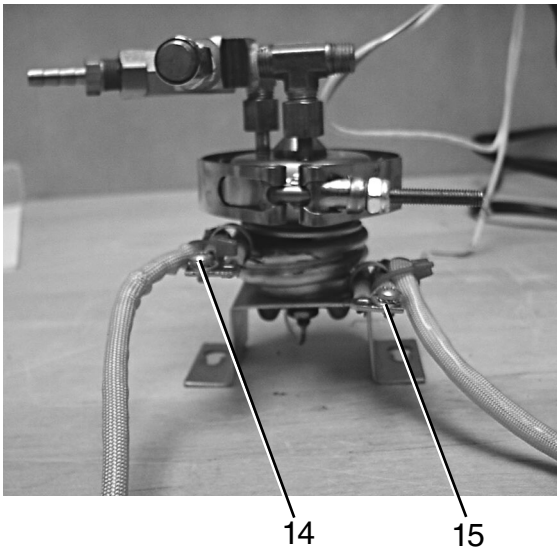


Figure 3

Document Change Record

Document 96-103916		Title: Steam Generator Thermal Fuse	
Revision	ECO	Notes	Date
4.0	04-0020	Updated chapter as per prEN13060 requirements.	January 16, 2004
3.0	99-0059	Added 5000S	April 14, 1999
2.0	98-0290	Revised, line art replaced by photos. Text changed to reflect variations of fuse assembly and steam generator construction.	November 21, 1997
1.0	96-088	Initial Release	May 29, 1996